ABSTRACT

IMPROVEMENTS IN OR RELATING TO PACKET SWITCHES

Described herein is a method of cell level scheduling for handling unicast traffic in routing devices, for example, crossbar switches. This is achieved by the provision of support for multimedia and real-time traffic in large bandwidth routing devices known as terabit routers. Each terabit router has a plurality of ingress line interface cards (210, 212, 214, 216), a plurality of egress line interface cards (220, 222, 224, 226) and a cell based cross-bar (202). Each ingress card has a plurality of queues, a different queue for each of the egress cards respectively. The cross-bar (202) is controlled by a cross-bar controller (204) in association with a bandwidth controller (206). In operation, a target rate matrix is maintained over a set period. At the beginning of each period, a matrix of numbers of cells queued to be transmitted is calculated in accordance with the target rate. For each successive cell slot within the period, a configuration is found which matches the cell number matrix by servicing only queues which have non-zero cell counts. At the end of the period, the cell counts are all zero.

(Fig. 2)